Exemption No. 7966

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056

In the matter of the petition of

JRG Design, Inc.

For an exemption from §§ 25.785(d), 25.785(h)(1), and 25.813(e) of Title 14, Code of Federal Regulations

Regulatory Docket No. FAA-2002-12344

GRANT OF EXEMPTION

By letter dated April 24, 2002, Chalmers D. Lockman, JRG Design, Inc., 6015 Crystal Spring Court, Greensboro, North Carolina 27410, petitioned for an exemption from the requirements of §§ 25.785(h)(2), 25.785(j), and 25.813(e) of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would permit flight attendant seats to be located such that that they do not provide the flight attendants a direct view of the passenger cabin, installation of interior doors between passenger compartments, and relief from the requirement for firm handholds along each aisle and additional passenger area in the executive interior of a Boeing Model 747SP airplane in "private, not-for-hire" use.

The applicant petitioned for exemption from requirements that flight attendant seats be located to provide a direct view of the passenger cabin and that a "firm handhold" be provided along each aisle; these requirements are found in §§ 25.785 (h)(2) and 25.785(j), respectively, of the current regulations, Amendment 25-88. However, the certification basis of the airplane modification is Amendment 25-51, rather than Amendment 25-88. At Amendment 25-51, the requirements that flight attendant seats be located to provide a direct view of the passenger cabin and that a "firm handhold" be provided along each aisle are found in §§ 25.785 (h)(1) and 25.785(d), respectively.

The petitioner requests relief from the following regulations:

Section 25.785(d), Amendment 25-51 – Requires a "Firm handhold" along each aisle.

Section 25.785(h)(1), Amendment 25-51 – Requires that flight attendant seats be located to provide a direct view of the passenger cabin.

Section 25.813(e), Amendment 25-46 - Prohibits installation of interior doors between passenger compartments.

The petitioner's supportive information is as follows:

"GENERAL BACKGROUND

"14 CFR Part 25 provides the rules governing the design and certification requirements of Transport Category Airplanes that are generally considered to be commercial aircraft being operated under 14 CFR Part 121 in the commerce of transporting fare paying passengers. There are however, other types of private operators that do not use their airplanes in revenue service. Operations such as these are "Private, not-for-hire". The types of interior configurations of these private airplanes differ substantially from the rows of seats on a commercial airliner. JRG Design, Inc. (JRG) believes that certain Part 25 rules intended for an airliner configuration are inconsistent with the type of interior in this "Private use" airplane and is requesting an exemption from certain specific requirements.

"SUPPORTIVE INFORMATION

1. "This airplane is solely limited to private use only and does not include a public passenger, or cargo for-hire commercial service.
2. "The passenger configuration of the airplane is significantly less than that of a traditional commercial airline configuration.
3. "The one-of-kind interior configuration includes the use of many different types of materials and compartments rather than the traditional airline type seating arrangements.
4. "The interior arrangement is static, allowing flight and cabin crews to become very familiar with the configuration of the airplane, emergency equipment provided, and the location and operation of the emergency exits.
5. "While some passengers will be frequent travelers and become thoroughly familiar with the safety requirements, safety briefings will be provided prior to each taxi, takeoff and landing. Individual instruction will also always be available to provide a supplementary means of awareness and understanding.
6. "Unlike an air carrier, the operator has control of and can restrict the population and/or selection of passengers.

"EXEMPTIONS REQUESTED

"Exemptions are requested from the following sections of 14 CFR:

A. "Section 25.785(h)(2) Direct View of the Cabin Area for which the Flight Attendant is Responsible.

"Justification

"The requirements of 14 CFR Part 25.785(h)(2) were incorporated into the FARs (Federal Aviation Regulations) through amendment 25-51 and the amendment was part of the Airworthiness Review Program. Of the comments submitted to the FAA during the NPRM (Notice of Proposed Rulemaking) comment period, two commented that, if galley doors were used as emergency exits, the placement of an attendant seat near the exit, as required in proposed § 25.785(h), could preclude compliance with the requirement that the attendant be provided a direct view of the cabin area. To cover this situation, it was suggested that the requirement be conditioned to apply insofar as practicable and without compromising the proximity to required floor level exits. The FAA concurred and further stated in the preamble to the final rule that 'location of the flight attendant seats near the floor level exits in this case is more important than the requirement that the flight attendant have a direct view of the cabin.' The final rule was revised from the NPRM proposal to address this relative importance. As galleys located near floor level exits are an essential part of the operation and interior configuration of a commercial airplane in revenue service, so too are partitions and interior walls, essential to the successful operation and interior configuration of this private airplane. These features may interfere with the flight attendants' direct view.

"Reference is made to the Petition for Exemption submitted by Boeing in connection with the Boeing Business Jet BBJ (dated May 7, 2001) and the resultant FAA Grant of Exemption No. 7609. This exemption addresses a number of reasons why certain exemptions from 14 CFR Part 25 are considered to be reasonable for airplanes configured for private operation.

"Passenger Safety Considerations

"Considering the smaller number of occupants in this private configuration; the utilization of private meeting rooms; the availability of individual briefings; the familiarity of the flight and cabin crews with the specific airplane, its passengers and its interior arrangement; and the wording of the existing rule that places the emphasis for safety on the proximity of the exit to the attendant over the ability of the attendant to view the cabin area, there should be no degradation in passenger safety as a result of this requested exemption.

B. "Section 25.813(e) No door may be installed in any partition between passenger compartments.

"Justification

"Portions of the interior cabin are configured with sleeping and other privacy areas to accommodate very private meetings. The only method of providing for such privacy requirements is through the use of walls and doors within the passenger cabin. The requirements for doors between different interior areas of the airplane are basic and intrinsic to maintaining the privacy requirements.

"It is interpreted that an exemption is required for the doors between the Aft Majlis and the staff seating area located in the rear of the airplane, and for the door between the VIP Area and the staff seating area located in the rear of the airplane. These doors are located between passenger compartments and where a floor level exit is not encountered prior to reaching the other passenger compartment. Similarly, it is interpreted that the other doors in the interior configuration are acceptable as they are not installed between passenger compartments, i.e. a floor level exit is always encountered prior to reaching another passenger compartment. If this interpretation is incorrect, then the exemption is requested for all applicable locations.

"For taxi, takeoff and landing, all doors to isolated compartments would be latched open when the compartment is occupied and would be latched closed when the compartment is not occupied. The latching system will be redundant and the door and latching system will be designed for crash loads. This configuration ensures a viable escape route for occupants of the compartments in case of emergency, and precludes passengers from entering a compartment inadvertently during an evacuation should the compartment be empty.

"For taxi, takeoff and landing, all doors between floor level emergency exits would be latched open, regardless of whether a compartment is occupied or not.

"A means will be incorporated to readily identify to the flight crew that each compartment door is locked open, or is closed.

"The door will be designed to be frangible in the closed position.

"The Airplane Flight Manual will be amended to require that passengers who are flying on the aircraft for the first time are notified of the existence of compartment doors, how they operate and that the door is frangible when in the closed position.

"Reference is made to the Petition for Exemption submitted by Boeing in connection with the Boeing Business Jet BBJ (dated May 7, 2001) and the resultant FAA Grant of Exemption No. 7609. This exemption addresses a number of reasons why certain

exemptions from 14 CFR Part 25 are considered to be reasonable for airplanes configured for private operation.

"Passenger Safety Considerations

"Given the following:

1) "There are a reduced number of occupants in comparison with a traditional commercial interior configuration.

2) "The flight and cabin crews are uniquely familiar with the specific airplane, its passengers and its interior arrangement.

3) "The wording of the existing rule, Part 25.813(f), acknowledges that doorways can be acceptable. "If it is necessary to pass through a doorway separating the passenger cabin from other areas to reach any required emergency exit from any passenger seat, the door must have a means to latch it in the open position. The latching means must be able to withstand the loads imposed upon it when the door is subjected to the ultimate inertia forces, relative to the surrounding structure."

4) "The door will be designed to be frangible in the closed position and resistant to the inertial forces of an accident in the open position. The FAA has previously determined that such doors, when installed across the main cabin aisle, open and close transversely to the longitudinal axis of the airplane.

"It is obvious that the escape path not be obstructed by curtains or doors; however, insuring that the doors be latched (redundantly) in the appropriate direction during taxi, takeoff and landing in order for the passengers to have an unobstructed path to the emergency exits places the emphasis for safety on the proximity of the exit to the passenger and the ability of the passenger to view the cabin area as if the door did not exist. Therefore, there would be no degradation in the level of safety by proving an exemption from § 25.813(e).

C. "Section 25.785(j) A "Firm Handhold" along each aisle.

"Justification

"Portions of the interior cabin are configured with sleeping and other privacy areas to accommodate very private meetings. The configuration of these areas with open areas at the center and seat backs positioned along the perimeter of the rooms does not permit using the seat back as the traditional handhold. Any construction hanging down from the ceiling would ruin the appearance of the high quality interior and is not acceptable to the customer. Hallway aesthetics provide limited handhold access.

"Reference is made to the Petition for Exemption submitted by Lufthansa Technik in connection with a Boeing 737-700 (dated December 10, 2000) and the resultant FAA Grant of Exemption No. 7475. Reference is also made to the Petition for Exemption submitted by Lufthansa Technik in connection with a Boeing 777-200 (dated December 10, 2000) and the resultant FAA Grant of Exemption No. 7317A. These exemptions address reasons why certain exemptions from 14 CFR Part 25 are considered to be reasonable for airplanes configured for private operation.

"Passenger Safety Considerations

"The risk for occupants due to the non-availability of direct handholds is considered acceptable for the following reasons:

"The interior cabin configuration does not encourage passengers to be standing about in the meeting rooms. The arrangement clearly suggests that passengers remain seated in a meeting room.

"Door frames integrated into the cabin layout areas provide a means for the passengers to steady themselves as they enter of exit a room or passageway.

"There will be a recommendation to passengers to remain seated with their seat belts fastened.

"The installed seats and divans are heavily upholstered.

"PUBLIC INTEREST

"Public interest is served by this request for exemption.

1. "This airplane is solely limited to private use only and does not include a public passenger or cargo for-hire commercial service. No adverse precedent will be set if this request is granted.
2. "The passenger seating capacity of the airplane is significantly less than that of a traditional commercial airline configuration.
3. "The one-of-kind interior configuration includes the use of many different types of materials and compartments rather than the traditional airline type seating arrangements.
4. "The interior arrangement is static, allowing flight and cabin crews to become very familiar with the configuration of the airplane, emergency equipment provided, and the location and operation of the emergency exits.
5. "While some passengers will be frequent travelers and become thoroughly familiar with the safety requirements, safety briefings will be provided prior to each taxi, takeoff and landing. Individual instruction will also always be available to provide a supplementary means of awareness and understanding.

6. “Unlike an air carrier, the operator has control of and can restrict the population and/or selection of passengers.
7. “The interior configuration to be installed allows efficient and safe carriage of the Head of State, his entourage and other executives in the sought for environment which would otherwise not be possible.

A summary of the petitioner's April 24, 2002, request for exemption was published in the Federal Register on October 31, 2002 (67 FR 66449). No comments were received.

The Federal Aviation Administration's analysis/summary is as follows:

The FAA is giving considerable attention to the issue of transport category airplanes operated for private use. There are several regulatory requirements, including some identified by the petitioner, that lend themselves to exemption when considering the differences between commercial and private use operations. The FAA intends to summarize its views on these regulations and, ultimately, propose revisions to the requirements, where appropriate. The regulations that are the subject of this petition may be included in the proposed revisions.

While it is true that the major impetus for most of the requirements referenced in this petition is commercial use, it is incumbent upon the FAA to upgrade design safety as the state of the art progresses, irrespective of the type of operation.

The applicant petitioned for exemption from requirements that flight attendant seats be located to provide a direct view of the passenger cabin and that a “firm handhold” be provided along each aisle; these requirements are found in §§ 25.785 (h)(2) and 25.785(j), respectively, of the current regulations, Amendment 25-88. However, the certification basis of the airplane modification is Amendment 25-51, rather than the current Amendment 25-88. At Amendment 25-51, the requirements that flight attendant seats be located to provide a direct view of the passenger cabin and that a “firm handhold” be provided along each aisle are found in §§ 25.785 (h)(1) and 25.785(d), respectively.

Direct View

The petitioner indicates that the requirement that flight attendant seats be located to provide flight attendants a direct view of the passenger cabin as not practical for the executive type interior to be used on the Boeing Model 747SP-68 airplane. The complexity of the interior arrangement, coupled with the need to retain proximity to emergency exits, is cited as the primary reason that compliance is impractical.

The FAA has considered this requirement in the context of private use airplanes and agrees that much of the justification for the requirement is based on air carrier type operations. On a private-use, not-for-hire airplane, it is not practical to locate flight attendant seats near emergency exits while also providing a direct view of the occupants of rooms. Therefore, the FAA believes that some relief may be appropriate for airplanes operated for private use. The FAA notes that the justification for relief from the requirement for direct view is not limited to observation of

passengers who are not familiar with the interior. Flight attendant seats should be located so that there is a direct view provided for the cabin area that is practical. Flight attendant seats should not face away from the cabin, for example. In those areas of the airplane where traditional seating arrangements are used, the FAA believes that direct view should be provided.

In considering the need for direct view, the FAA agrees that in private use the operator can restrict the population of passengers, unlike an air carrier. The risk of passengers engaging in hazardous or malicious activity is essentially eliminated, and the need for direct view is limited to those cases where a passenger might need assistance. We consider that this objective is met by requiring that a majority of flight attendants seats face the cabin.

Firm Handhold

The petitioner requests an exemption from the handhold requirements of § 25.785(d) for the area of the forward Majlis, the master suite, master lavatory, the main entry, main Majlis, aft Majlis and upper deck.

The FAA has considered the requirement for firm handholds in the context of private use airplanes. For the area of the forward Majlis, the master suite, the master lavatory, the main entry, the main Majlis, the aft Majlis and the upper deck, the requirement to have a firm handhold would be impractical for the proposed configuration. The arrangement for these areas that the petitioner has proposed provide an acceptable level of safety for a private use airplane.

Interior Doors

This issue is clearly quite significant to the owner that will operate this airplane. The flexibility to partition the airplane in a multitude of locations for customization is regarded as paramount to an acceptable interior. The availability of private meeting space is essential. The FAA acknowledges the desirability of this feature from the operator's point of view.

As noted by the petitioner, the regulations regarding interior doors did not necessarily consider "rooms" when they were adopted. Nonetheless, the concerns with the doors that were the target of the regulation, (namely, the potential to obstruct access to emergency exits as well as creating a potential for lack of recognition of exits beyond the door) apply to other types of doors as well. In fact, the current regulations do allow the installation of interior doors when passengers are not seated on both sides of the door for takeoff and landing. The FAA is concerned that doors not be located between passengers and exits and has proposed to prohibit such installations in the future in Notice of Proposed Rulemaking 96-9.

The petitioner proposes three different categories of doors in the passenger cabin.

1. Category 1 is a door in a room which may either be the full width of the airplane or less than the full width (if it is less, there will be an aisle on the outside of the room), the room may be occupied during take-off and landing, and only the occupants of the room must use the door to reach an exit.

2. Category 2 is a door in a room that is less than the full width of the airplane (i.e., there is an aisle on the outside of the room), the room may be occupied during take-off and landing, and there is a single emergency exit within the compartment.

3. Category 3 is a door in a room that is the full width of the airplane; passengers are seated on both sides of the door, and there are a pair of emergency exits at one end.

After considerable deliberation, the FAA has concluded that in regard to the installation of interior doors between passenger compartments, not all interior doors are equivalent. With respect to such interior doors, the FAA has determined that the following requirements will produce an adequate level of safety:

1. In order to maximize the level of safety, doors in Category 2 or 3 installed across the main cabin aisle must open and close in a transverse direction. That is, the direction of motion of the door must be at a right angle to the longitudinal axis of the airplane. A "pocket door" is one example of such a design. This will tend to minimize the chance that the inertia forces of an accident could force the door closed.

2. Redundant means are necessary to latch doors open for takeoff and landing. Each latching means must have the capability of retaining the door in the takeoff and landing position under the inertia forces of § 25.561.

3. Each interior door must be frangible, in the event that it is closed or closes during an emergency landing. Frangibility may be demonstrated in accordance with the criteria set forth in Advisory Circular 25-17, Transport Airplane Cabin Interiors Crashworthiness Handbook, paragraph 43.b(2).

4. Doors that fall into Category 1 must be in the open position during taxi, take-off and landing only when the room is occupied.

5. Doors that fall into Categories 2 or 3 must be in the open position during taxi, take-off and landing, regardless of occupancy.

6. With respect to the possibility that a door will remain closed when it should not be, the FAA believes that a higher level of awareness is required to address this issue. Due to the relative complexity of the cabin interior, the FAA does not believe that inspection by flight attendants prior to takeoff and landing is sufficient to verify that interior doors are in their proper position. Consequently, some type of remote indication is considered necessary; the petitioner's proposal to provide remote indication to the flight crew is considered adequate.

In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in § 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, J.R.G. Design, Inc., is hereby granted an exemption from the requirements of §§ 25.785(h)(1) Amendment 25-51; 25.785(d), Amendment 25-51, and 25.813(e), Amendment 25-46 for a Boeing Model 747SP-68 airplane serial number 22750. Specifically, the exemption allows flight attendant seats to be located so that they that do not provide the flight attendants a direct view of the cabin and the installation of interior doors between passenger compartments. The exemption also provides relief from the requirement to provide firm handholds in the aisle in the area of the forward Majlis, the master suite, the master lavatory, the main entry, the main Majlis, the aft Majlis and the upper deck. This exemption is subject to the following conditions:

1. The airplane is not operated for hire, or offered for common carriage. This provision does not preclude the operator from receiving remuneration to the extent consistent with 14 CFR parts 125 and 91, subpart F, as applicable. The maximum passenger capacity is limited to 135.

2. A majority of flight attendant seats must be oriented to face the passenger cabin.

3. Each door between passenger compartments must be frangible.

4. Doors that fall into Category 1 must be in the open position during taxi, take-off and landing only when the room is occupied.

5. Doors that fall into Categories 2 or 3 must be in the open position during taxi, take-off and landing, regardless of occupancy.

6. Appropriate procedures must be established to signal the flightcrew that a door between passenger compartments is closed and to prohibit takeoff or landing when a door between passenger compartments is not in the proper position.

7. Doors between passenger compartments must have dual means to retain them in the open position, each of these means must be capable of withstanding the inertia loads specified in 14 CFR § 25.561.

8. Doors in Categories 2 or 3 which are installed across a longitudinal aisle must translate laterally to open and close.

Issued in Renton Washington, on January 29, 2003.

s/s
Ali Bahrami
Acting Manager
Transport Airplane Directorate
Aircraft Certification Service